

**AMENDMENTS TO THE CLAIMS**

This listing of the claims will replace all prior versions, and listings, of claims in the application:

Claims 1-10 (cancelled)

Claim 11 (previously presented): A multilayer optical article comprising:

a first substrate;

a second substrate;

a third substrate;

a reflective layer;

a first layer of partially cured adherent, wherein the first layer of partially cured adherent is disposed between a first surface of the first substrate and the second substrate; and

a second layer of partially cured adherent, wherein the second layer of partially cured adherent is disposed between a second surface of the first substrate and the third substrate, wherein the first and second adherent comprise a photopolymer such that the article is capable of storing data in a holographic data storage system, and wherein the multilayer optical article has a surface flatness of about 0.05 waves/cm to about 1 wave/cm at wavelengths of about 300 nanometers to 1600 nanometers, wherein a first layer bounded by a first surface of the first substrate and a first surface of the second substrate and a second layer bounded by a first surface of the first substrate and a first layer of the third substrate each have a transmission flatness of about 0.05 waves/cm to about 1 wave/cm at wavelengths of about 300 nanometers to 1600 nanometers.

Claim 12 (original): The multilayer article of claim 11, wherein the substrates are made from glass, silicon, polycarbonate, polymethylmethacrylate, acrylic, polyolefin or any combination thereof.

Claim 13 (original): The multilayer article of claim 11, wherein the substrates have at least one hole for dispensing an adherent through the substrate.

Claim 14 (original): The multilayer article of claim 11, wherein the geometric form of the substrates may be square, rectangular, circular, or oval.

Claim 15 (original): The multilayer article of claim 11, wherein the substrates are about 25 micrometers to about 3 millimeters in thickness.

Claim 16 (original): The multilayer article of claim 11, wherein the outer surface of the first or second or third substrates contain surface relief patterns.

Claim 17 (original): The multilayer article of claim 11, wherein one or both of the surfaces of the first or second or third substrate contain a surface relief pattern or a diffractive grating.

Claim 18 (original): The multilayer article of claim 11, wherein the adherent is cured utilizing thermal or radiation energy.

Claim 19 (original): The multilayer article of claim 11, wherein the article has a Strehl value of 0.9 or greater.

Claims 20-39 (cancelled)

Claim 40 (original): A multilayer reflective holographic storage system comprising:

- a first substrate with a first and second surface, wherein the first surface is optically reflective

- a second substrate;

- a third substrate;

- a first layer of partially cured adherent, wherein the first layer of partially cured adherent is disposed between the first surface of the first substrate and the second substrate; and

- a second layer of partially cured adherent, wherein the second layer of partially cured adherent is disposed between the second surface of the first substrate and the third substrate,

- wherein the first and second adherent comprise a photopolymer such that the article is capable of storing data in a reflective holographic data storage system, and wherein the multilayer storage system has a surface flatness of about 0.05 waves/cm to about 1 wave/cm at wavelengths of about 300 nanometers to 1600 nanometers, wherein a multilayer bounded by the first surface of the first substrate and the first surface of the second substrate and a multilayer bounded by the first surface of the first substrate and the first layer of the third substrate each have a transmission flatness of about 0.05 waves/cm to about 1 wave/cm at wavelengths of about 300 nanometers to 1600 nanometers.

Claim 41 (original): The multilayer article of claim 40, wherein the substrates are made from glass, silicon, polycarbonate, polymethylmethacrylate, acrylic, polyolefin or any combination thereof.

Claim 42 (original): The multilayer article of claim 40, wherein the substrates have at least one hole for dispensing an adherent through the substrate.

Claim 43 (original): The multilayer article of claim 40, wherein the geometric form of the substrates may be square, rectangular, circular, or oval.

Claim 44 (original): The multilayer article of claim 40, wherein the substrates are about 25 micrometers to about 3 millimeters in thickness.

Claim 45 (original): The multilayer article of claim 40, wherein the outer surface of the first or second or third substrates contain surface relief patterns.

Claim 46 (original): The multilayer article of claim 40, wherein the inner surface of the first or second or third substrate contain a surface relief pattern or a diffractive grating.

Claim 47 (original): The multilayer article of claim 40, wherein the adherent is cured utilizing thermal or radiation energy.

Claim 48 (original): The multilayer article of claim 40, wherein the article has a Strehl value of 0.9 or greater.

Claim 49 (cancelled)

Claim 50 (previously presented): The multilayer article of claim 11, wherein the reflective layer is disposed adjacent the first surface or the second surface of the first substrate.

Claim 51 (previously presented): The multilayer article of claim 11, wherein the reflective layer includes at least one of aluminum, gold, and copper.

Claim 52 (previously presented): The multilayer article of claim 40, wherein the first surface of the first substrate includes a reflective layer.

Claim 53 (previously presented): The multilayer article of claim 52, wherein the reflective layer includes at least one of aluminum, gold, and copper.